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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,054	02/08/2001	Michael Sakuth	MULLER22	7181

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04/23/2003

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n No.

09/701,054

Applicant(s)

SAKUTH ET AL.

Examiner

Edward M. Johnson

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 19 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 36-74 is/are pending in the application.
- 4a) Of the above claim(s) 63-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-51, 54-62 and 74 is/are rejected.
- 7) ☒ Claim(s) 52 and 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's correct election of claims 36-62 and 74 in Paper No. 9 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 36-39, 48-51, 54-62, and 74 are rejected under 35 U.S.C. 102(b) as being anticipated by Jorgensen et al. US 4,714,537.

Regarding claims 36 and 37, Jorgensen '537 discloses a silicate catalyst carrier with increased silica:alumina ratios of 500:1 or more (see column 12, lines 21-35).

Regarding claim 48, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20), impregnating the silicate with an anionic, cationic, or neutral

complex, and washing with water (see column 12, lines 17-20 and 55-60).

Regarding claims 38-39 and 74, Jorgensen '537 discloses montmorillonite (see paragraph bridging columns 12-13).

Regarding claims 49 and 58-60, Jorgensen '537 discloses water (see column 12, lines 17-20).

Regarding claims 50-51, Jorgensen '537 discloses phosphoric acid (see column 11, lines 50-56).

Regarding claim 54, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20).

Regarding claims 55-56, Jorgensen '537 discloses temperatures of ambient up to 100 degrees Celsius (see column 12, lines 5-7).

Regarding claim 57, Jorgensen '537 discloses hydrochloric acid (see column 11, lines 34-36).

Regarding claim 61, Jorgensen '537 discloses calcining at 200-900 degrees Celsius (see column 9, lines 52-55).

4. Claim 62 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jorgensen '537.

Regarding claim 62, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20), impregnating the silicate with an anionic, cationic, or neutral

complex, and washing with water (see column 12, lines 17-20 and 55-60).

In the event any differences can be shown for the product of the product-by-process claim 62, as opposed to the product taught by Jorgensen '537, such differences would have been obvious to one of ordinary skill in the art at the time the invention was made as a routine modification of the product in the absence of a showing of unexpected results; see also *In re Thorpe*, 227 USPQ 964 (Fed.Cir. 1985).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen '537 as applied to claims 36-37 above, and further in view of Lambert US 5,080,778.

Regarding claims 40-41, Lambert '778 discloses a pore volume of 0.1-1 cc/g (see column 9, lines 50-56).

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It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pore volume of Lambert in the hydrogenation catalyst carrier of Jorgensen because Lambert discloses his pore volume in a catalyst carrier for use in hydrocarbon conversion (see column 1, lines 12-15) to process heavier feeds and provide higher selectivity (see column 9, lines 44-46).

Regarding claims 42-45, Jorgensen discloses 1/16 inches (see Example 1) and Lambert '778 discloses a small diameter sphere (see column 9, lines 18-19) and about 1/16 inches (see Example 1).

7. Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen '537 as applied to claims 36-37 above, and further in view of McWilliams US 5,145,659.

Jorgensen fails to disclose a crushing strength of at least 20 N/mm

McWilliams '659 discloses a crushing strength of 100 lbs/in<sup>2</sup> (see Example C1).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the crushing strength of McWilliams in the high silica:alumina ratio catalyst of Jorgensen because McWilliams

discloses his crushing strength for use in a catalyst to increase the silica of the available matrix (abstract).

***Allowable Subject Matter***

8. Claims 52-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: It would not have been obvious to one of ordinary skill in the art at the time the invention was made to use a temperature of 160-300 degrees Celsius and a water vapor pressure of 16-25 bar, wherein the carrier is impregnated with phosphoric acid, in the processes of the instant claims 52-53.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Young US 5,248,841 discloses a hydrogenation catalyst having a cristobalite structure (see column 3, line 64, abstract, and Examples); Absil et al. US 4,919,790 discloses a hydrocarbon dewaxing catalyst comprising dealuminized silica-alumina (see abstract, Examples); and Angevine et al. US 4,696,732 discloses


a hydrotreating catalyst comprising a dealuminized zeolite catalyst (see abstract, Examples).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ  
April 18, 2003

  
Stanley S. Silverman  
Supervisory Patent Examiner  
Technology Center, VLS